ACKNOWLEDGEMENT

It is my privilege to mention here a number of individuals whose efforts have greatly enhanced this thesis as well as my professional and personal development in general.

My guide Dr Hari Prasad Sarma, Reader, Department of Environmental Science, Gauhati University, Guwahati, Assam, has provided excellent technical and literary guidance that has greatly improved the contents and presentation of this thesis. He has also provided me with much encouragement and support from time to time during my Ph D work. I sincerely thank him for his effort on my behalf.

I would like to thank Dr Saumen Banerjee, Sc “C” and HOD, Water Chemistry Division, Defence Research Laboratory (DRL), Tezpur, Assam, for not only assisting me throughout my research but helping me a lot during my research work at DRL. I greatly acknowledged Dr Lokendra Singh, Director of DRL, Dr Ravi Behari Srivastava, Director of Life Sciences, New Delhi, and Dr Soumya Chatterjee Sc “C”, Biotechnology Division, DRL for their moral and technical supports and suggestions during my Ph D work. Thanks go to the Kusum Bora, H. Kalita, L. B. Saikia, Dr G. Agnihotri, Dr R. Devi, Dr I. Umlong, P. Raul and Bodhaditya Das for their technical supports. I want to give my sincere thanks to Mr K. K. Rai and Mr S. Doley, officers of Tech Cord, DRL, for their valuable suggestions during my Ph D work.

I am incredibly grateful to Dr. R. L. Gowamee, Scientist E 2, NEIST, Jorhat, Assam and Prof. Chandan Mohanta, Department of Civil Engineering, IIT, Guwahati, Assam, who encourage me a lot during my Ph D work.

My sincere thanks go to Mr. P. K. Mudoi, Mr T. Thangal and Mr. P. K. Sarma Tamuli, Junior Engineer, PHED, Golaghat, Government of Assam and Mr. N. Bora, Project Manager, Arunodoy (NGO), Golaghat, for their kind help and
support during sample collection. Again, I am very thankful to Mr Manas J Nath, SRF of DRL, Mr M. Barthakur and Mr Jaydeep Baruah, Assistant Professor of Omeo Kumar Das Institute of Social Change and Development, an autonomous research institute of Indian Council of Social Science Research, New Delhi and Govt. of Assam for their helping hands in GSlS mapping of the study area. Again, thanks go to Dr Kishor Baruah, Mr Ratan Baruah of Tezpur University who gave me opportunity for analyzing the sediment samples in the Department of Physics, Tezpur University.

I am also thankful to Mr Joydev Dutta, Lecturer of Chemistry Division, Chaiduar College, Gohpur, Assam and Mr Ritu Thakur of NERIWL, Tezpur for their valuable suggestions and supports from the very begging to the end of my PhD work. It is also very important to mention the names of some of my friends like Mr Diganta Goswami, Mr Bipol Rabha, Mr Gunin Saikia and Mr Raju Borah whose love and supports, help me a lot to reach the goal. My special thanks go to Krishna, Nirupam, Ranjeet, Prasanta and Madhab, whom I always treat as my younger brothers. Their helps during my work at laboratory are really impressed me a lot which I never forget in my life.

I want to thank my entire family, without whose support and understanding, I would never have made it this far.

Finally, let me mention that this thesis could not have been completed without the financial support of DRDO Head quarter, New Delhi.

Date: 15.05.2010

(Mridul Chetia)